

## Brown Marmorated Stink Bug *Halyomorpha halys*



### GENERAL INFORMATION

The Brown Marmorated Stink Bug, *Halyomorpha halys*, (family Pentatomidae) is a true bug (Hemiptera) that is native to East Asia and is found as an invasive species in North America. It was first discovered in the United States in Pennsylvania during the late 1990's, and due to the absence of natural predators populations have exploded. It is quickly becoming an agricultural pest as well as a nuisance to homeowners. As of November 2011 it has been recorded in 34 US States. Recent reports from Switzerland suggest that it may also be spreading in Europe.

The biggest risk that Brown marmorated stink bugs pose to museums is the fact that large numbers of dead stink bugs accumulating in a museum will draw dermestid beetles to feed on them. Dermestid beetles can then transfer to natural products in the museum collection. There is also a potential for fecal damage left behind by large swarms of these bugs on the areas that they are accumulating.

### SIGNS OF INFESTATION

Infestations of building interiors occur when adults seek hibernation sites in fall. They will enter under siding, into soffits, around window and doorframes, or any space that has openings big enough to fit through. Once inside the house, they will go into a state of hibernation. Generally, they wait for winter to pass, but often the warmth inside the house causes them to become active, and they may fly clumsily around light fixtures. They can also be noted in and around windows that contain natural sunlight.



### DIAGNOSTIC MORPHOLOGY

#### Adults:

- Approx. 17 mm (0.67 in) long and about as wide, forming "shield" shape
- Colors include various shades of brown on both the top and undersides, with gray, off-white, black, copper, and bluish markings.
- Alternating light bands on the antennae and alternating dark bands on the thin outer edge of the abdomen.
- Legs are brown with faint white mottling or banding.
- Stinkglands are located on the underside of the thorax, between the first and second pair of legs, and on the dorsal surface of the abdomen



#### Immature Stage:

- The nymphs are brightly colored with red and black bands. See image bottom left.



### FOOD SOURCES

Brown Marmorated Stink Bugs, like all Pentatomidae, feed by sucking juices from plants using their highly modified mouthparts. It is reported to feed on a wide variety of species including agricultural crops such as fruit trees, corn, tomatoes, soybeans and tobacco. Adults typically feed on the fruiting bodies of the host plant, whereas nymphs feed on leaves, stems, petioles and flowers.

### LIFE CYCLE

Overwintered adults emerge from hibernation sites in early spring. Mating and oviposition start about 2 weeks later. Sexually mature females usually mate more than once (as many as five times per day). A female mated only once can store enough sperm to lay eggs for nearly half her lifespan, but fecundity decreases in proportion to her age. The period of laying fertile eggs and fecundity increase with multiple copulations. Females deposit the elliptical eggs on the lower leaf surfaces of host plants from May to late August. Egg clusters commonly contain 20 to 30 eggs, which hatch in 4 to 5 days. As with other stink bugs, Brown Marmorated Stink Bugs have five nymphal instars. Emerging adults of the first generation are generally observed in early to mid-August. Development time from egg to adult is one to two months, depending on season and geography. Adults hibernate during winter and in the fall they may infest houses when looking for suitable

hibernation sites.

### CONTROL & TREATMENT

1. Physical Control: Adult Brown Marmorated Stink Bugs enter homes through cracks and crevices. Prevention of access is the first line of defense, this could include the following:

Caulk windows inside and out

Weather strip entry doors and/or install door sweeps if daylight is visible around the perimeter of the door

Rake away all debris and edible vegetation from your home's foundation to keep from attracting pests.

Inspect for and seal foundation cracks to block a potential point of entry.

Secure crawl space entries.

When insulating exposed plumbing pipes around the foundation or the crawl space of your home, caulk small gaps and fill larger ones with steel wool.

If your home has a fireplace, cap or screen the top of the chimney to keep out pests.

2. Physical removal: If Brown Marmorated Stink Bugs have entered the house both live and dead bugs can be removed from interior areas with the aid of a vacuum cleaner, but the vacuum may smell of stink bugs for a period of time.

3. Trapping: Blue or black fluorescent lights attract the Brown Marmorated Stink Bug. There are several light traps that use these color spectrums that are available of the market. They will trap adult BMSB but the significance of the reduction in population is still being evaluated.

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A Product of the Integrated Pest Management Working Group

## Fact Sheet: Brown Marmorated Stink Bug

Information references from:

<http://www.hgic.umd.edu/content/brownstinkbug.cfm>

[http://en.wikipedia.org/wiki/Brown\\_marmorated\\_stink\\_bug](http://en.wikipedia.org/wiki/Brown_marmorated_stink_bug)

<http://njaes.rutgers.edu/stinkbug/identify.asp>

Photo credits:

Adult Brown marmorated stink bug by Leo Shapiro from Encyclopedia of Life: <http://eol.org/pages/3686128/overview>

Egg and nymph brown marmorated stink bug by Forestry Images from Encyclopedia of Life: [http://eol.org/data\\_objects/13144747](http://eol.org/data_objects/13144747)

Adult image on black background by USGS Native Bee Inventory and Monitoring Laboratory from Encyclopedia of Life: [http://eol.org/data\\_objects/23285604](http://eol.org/data_objects/23285604)